

For fifty years, commencing with KERNER, many European botanists have called attention to the relatively xerophytic features of limestone plants. HOSSEUS<sup>9</sup> shows that these same features hold for the tropics. His studies were made on a mountain in northern Siam, and he records the following xerophytic habits as characteristic: shortened, lignified, much-branched stems; reduced leaf surfaces; involute leaves; succulence, etc.—H. C. COWLES.

**The chestnut disease.**—ANDERSON and RANKIN<sup>10</sup> have published a bulletin upon the chestnut disease which has attracted so much attention. The bulletin brings together the scattered data in reference to the disease and presents the known facts in a very convenient form. It seems that this "canker" was first discovered by MERKEL in 1904 on the American chestnut in the New York Zoological Park. The rapidity of spread has been phenomenal, and the authors state that "the completeness of destruction is without parallel in the annals of plant pathology." The latest published information states that the disease is now generally distributed among native chestnuts from New Hampshire and the Hudson region of northern New York to Virginia; and has spread westward into New York and Pennsylvania, but has not yet been found in Ohio or Indiana.

The name of the causal organism has been under considerable discussion, and the various views are presented. The authors adopt *Endothia parasitica* (Murr.) Anders. The morphology is discussed in detail, treating of stromata, pycnidia, pycnospores, perithecia, asci, ascospores, and mycelium. It is obvious that the American chestnut (*Castanea dentata*) is by far the most susceptible host, but no species of *Castanea* has been proved to be immune, although some of the oriental varieties show a certain amount of resistance. The conclusion at present is that this disease is not a serious menace to any forest tree except the chestnut. The problem of dissemination is discussed in detail, including such factors as man, insects, rain, birds, wind, and other minor agencies.

Naturally the subject of control is discussed with all available data, and the general conclusion is reached that "at present we know of nothing that will prevent the extermination of the American chestnut tree." The authors, however, "do not believe that the ingenuity of our scientists has been exhausted," a hopeful belief which we trust will be justified.—J. M. C.

**Morphology of *Peperomia hispidula*.**—JOHNSON<sup>11</sup> has made a detailed study of this species, having a very simple vegetative structure and a peculiar

<sup>9</sup> HOSSEUS, C. C., Edaphische Wirkungen des Kalkes auf die Vegetation tropischer Karren und Karrenfelder. Bot. Jahrb. 45:661-669. 1911.

<sup>10</sup> ANDERSON, P. J., and RANKIN, W. H., *Endothia* canker of chestnut. Cornell Univ. Agric. Exp. Station Bull. 347:533-618. pl. 37. figs. 101. 1914.

<sup>11</sup> JOHNSON, DUNCAN S., Studies of the development of the Piperaceae. II. The structure and seed-development of *Peperomia hispidula*. Amer. Jour. Bot. 1: 323-339, 357-397. pls. 36-38, 41-43. 1914.